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JCWSCS 05 JAN 2005

DICKE, BILLIG & CZAJA P.A.

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**Applicant:** Jung Pill Kim                   **Examiner:** Unassigned  
**Serial No.:** 10/826,840                   **Group Art Unit:** 2812  
**Filed:** April 16, 2004                   **Docket:** 2004P50585US/I331.138.101  
**Title:** THRESHOLD VOLTAGE DETECTOR FOR PROCESS EFFECT  
COMPENSATION

**CERTIFICATE OF FACSIMILE TRANSMISSION**

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1. Transmittal Sheet containing Certificate of Facsimile (1 pg.);
  2. Request for Corrected Filing Receipt (2 pgs.);
  3. Copy of the original Filing Receipt with error(s) marked (2 pgs.); and
  4. Copy of the first page of the filed application (1 pg.).

Respectfully submitted,

Jung Pill Kim

By his attorneys,

DICKE, BILLIG & CZAJA, PLLC  
Fifth Street Towers, Suite 2250  
100 South Fifth Street  
Minneapolis, MN 55402  
Telephone: (612) 767-2502  
Facsimile: (612) 573-2005

Date: 1/15/05  
PPK:cmj

By: Paul P. Kempf  
Reg. No. 39,727

**7 PAGES – INCLUDING COVER PAGE**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Jung Pill Kim                      Examiner: Unassigned  
Serial No.: 10/826,840                      Group Art Unit: 2812  
Filed: April 16, 2004                      Docket: 2004P50585US/I331.138.101  
Date Due: N/A  
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Commissioner for Patents  
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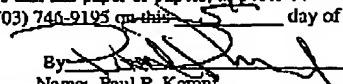
- Certificate of Facsimile Transmission (1 pg.);
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By:   
Name: Paul P. Kempf  
Reg. No.: 39,727

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By:   
Name: Paul P. Kempf

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant:	Jung Pill Kim	Examiner:	Unassigned
Serial No.:	10/826,840	Group Art Unit:	2812
Filed:	April 16, 2004	Docket:	2004P50585US/I331.138.101
Title:	THRESHOLD VOLTAGE DETECTOR FOR PROCESS EFFECT COMPENSATION		

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**REQUEST FOR CORRECTED FILING RECEIPT**

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Office of Initial Patent Examination's  
Filing Receipt Corrections  
Customer Service Center  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Applicant respectfully requests correction of the Filing Receipt with respect to the above-identified patent application. In the Filing Receipt received in our office, (copy enclosed), the title is incorrect.

The title *reads* as follows:

Threshold voltage detector for processw effect compensation

The title, as evidenced by the first page of the filed application, *should read* as follows:

Threshold voltage detector for process effect compensation

**Request for Corrected Filing Receipt**

Applicant: Jung Pill Kim

Serial No.: 10/826,840

Filed: April 16, 2004

Docket No.: 2004P50585US/I331.138.101

Title: THRESHOLD VOLTAGE DETECTOR FOR PROCESS EFFECT COMPENSATION

Applicant would appreciate the above-identified printing error be corrected and that a new "corrected" Filing Receipt be sent to Applicant's representatives at the address give below.

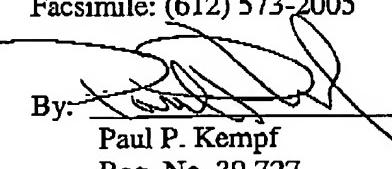
Respectfully submitted,

Jung Pill Kim,

By his attorneys,

DICKE, BILLIG & CZAJA, PLLC  
Fifth Street Towers, Suite 2250  
100 South Fifth Street  
Minneapolis, MN 55402  
Telephone: (612) 767-2502  
Facsimile: (612) 573-2005

Date: 1/5/05  
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By:   
Paul P. Kempf  
Reg. No. 39,727

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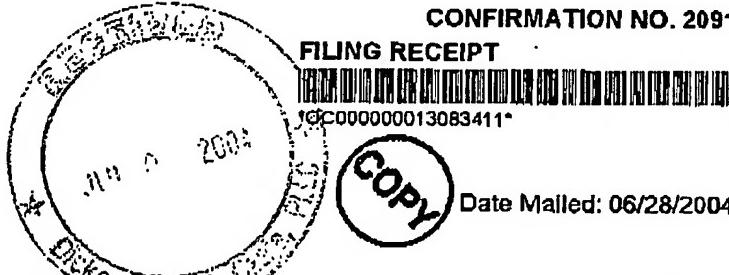
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Name: Paul P. Kempf

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APPL NO.	FILING OR 371 (c) DATE	ART UNIT	FIL FEE REC'D	ATTY.DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/826,840	04/16/2004	2812	824	2004P50585US/I331.138.101	6	23	2

Dicke, Billig & Czaja, PLLC  
 Fifth Street Towers  
 100 South Fifth Street, Suite 2250  
 Minneapolis, MN 55402



Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections, facsimile number 703-746-9195. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

**Applicant(s)**

Jung Pill Kim, Cary, NC;

**Assignment For Published Patent Application**

Infineon Technologies North America Corp.;

**Domestic Priority data as claimed by applicant****Foreign Applications**

If Required, Foreign Filing License Granted: 06/26/2004

Projected Publication Date: 10/20/2005

Non-Publication Request: No

Early Publication Request: No

**Title**

Threshold voltage detector for process effect compensation

**Preliminary Class**

438

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Title 37, Code of Federal Regulations, 5.11 & 5.15**

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PATENT  
2004P50585US  
1331.138.101

## THRESHOLD VOLTAGE DETECTOR FOR PROCESS EFFECT COMPENSATION

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### Background

The present invention relates to detection and compensation for process variations that can occur during the processing of semiconductor components. Specifically, threshold voltage detectors are used to detect process variations, to 10 quantify the process variations, and to compensate for such variations.

During fabrication of semiconductor components, it is typical for process variation to affect the properties of the manufactured semiconductor components. Process variation of semiconductor components is the normal variance in the structure between semiconductor components of the same type 15 due to variations that occur during manufacturing. Because of process variation, different semiconductor components used in electrical circuits will have performance characteristics that vary and may be degraded, depending on process variations.

In some applications, electrical circuits may be devised in which process 20 variations of semiconductor components can be minimized or designed around. In other instances, it is useful to determine what process variations have occurred in the semiconductor components so that adjustments can be made to the electrical circuit to compensate therefore.

For these and other reasons, a need exists for the present invention.

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### Summary

The present invention is a process variation compensation circuit. The circuit includes a threshold voltage detector circuit, a comparator network, and a 30 circuit block. The threshold voltage detector circuit is configured with at least one transistor that is manufactured during a process. The threshold voltage detector generates an output signal dependant on variations in the process. The